

cc

# Notice of Allowability

Application No.

10/533,372

Examiner

Rhonda S. Peace

Applicant(s)

WATTS, MICHAEL R.

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to application filed 11/28/2003 <sup>04/29/2005</sup>
2. ☒ The allowed claim(s) is/are 1-13.
3. ☒ Acknowledgment is made of a claim for ~~foreign~~ <sup>(e)</sup> priority under 35 U.S.C. § 119(a), (d) or (f).
- a) ☒ All b) ☐ Some\* c) ☐ None of the:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 4/29/05/10/14/05
- ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
- ☐ Examiner's Amendment/Comment
- ☒ Examiner's Statement of Reasons for Allowance
- ☐ Other \_\_\_\_\_.

  
John D. Lee  
Primary Examiner

## **DETAILED ACTION**

### ***Information Disclosure Statement***

The information disclosure statements (IDS) submitted on 4/29/2005 and 10/14/2005 were filed in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statements are being considered by the examiner.

### ***Allowable Subject Matter***

Claims 1-13 are allowed.

The following is an examiner's statement of reasons for allowance: The applicable prior art does not disclose, nor does it reasonably suggest a polarization splitter comprising an input waveguide to receive an optical signal having both TE and TM components, a geometrically vertically orientated waveguide including a plurality of core layers coupled to the input waveguide that is configured to propagate the TM component of the input signal, and a horizontally orientated waveguide element coupled to the input waveguide and is configured to propagate the TE component of the input signal. Furthermore, a method for forming such a polarization entailing providing an input waveguide that is configured to receive both TE and TM components of an optical signal, forming a geometrically vertically orientated waveguide including a plurality of core layers and coupled to the input waveguide and configured to propagate the TM component of the optical signal, and forming a horizontally orientated waveguide coupled to the input waveguide and configured to propagate the TE input signal component, is not disclosed by the applicable prior art. Moreover, the applicable prior art does not disclose, nor reasonably suggests forming two waveguide elements, the

first with a vertical orientation, and the second with a horizontal orientation, where the two elements are nearly (or completely) intersected at one end of the structure and are separated at the end of the structure, where the transition between the intersected portion and the separated portion is made to be adiabatic.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Watts et al (US 2006/0018584) discloses an integrated optic polarization converter based on structural chirality. Liao et al (US 6324312) discloses a structure and method for fabricating a wide-angle TE-TM mode splitter. Garner et al in the article "Vertically Integrated Waveguide Polarization Splitters Using Polymers," discloses design considerations, fabrication processes, and experimental results for vertically integrated waveguide polarization splitters, where TE and TM polarizations are split into different vertical levels of a three-dimensional integrated optic circuit.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rhonda S. Peace whose telephone number is (571) 272-8580. The examiner can normally be reached on M-F (8-5).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272- 2344. The fax phone

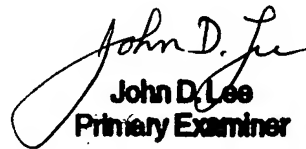
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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Rhonda S. Peace  
Examiner  
Art Unit 2874



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